

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/767,539	ADLER-GOLDEN ET AL.	
	<b>Examiner</b>	Art Unit	
	Anthony Gutierrez	2857	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the response filed 9/26/07.

2.  The allowed claim(s) is/are 1-7,36 and 37.

3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All      b)  Some\*    c)  None    of the:

1.  Certified copies of the priority documents have been received.

2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

(a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.

(b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
 Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                                 |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____.   | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|  | 9. <input type="checkbox"/> Other _____.  |

**DETAILED ACTION**

**Drawings**

1. The drawings were received on 9/26/07. These drawings are acceptable.
  
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian M. Dingman on 10/1/07.

3. In the Specification please amend as below:

On page 14, in the blank line just above the heading "Description of the Preferred Embodiments", add the following section:

Brief Description of the Drawing

The drawing depicts the steps of the preferred embodiment of the inventive method.

On page 14, in the blank line just after the heading "Description of the Preferred Embodiments" and before the heading "Aerosol Retrieval Method", add the following new paragraph:

The drawing depicts the steps of the preferred embodiment of the inventive method of correcting for atmospheric effects on a remote image of the Earth's surface taken from above, in which the image comprises a number of images of the same scene. Each image includes a large number of pixels, each at a different wavelength band, in infrared through visible wavelengths. In step 10, a radiation transport model that relates spectral radiance to spectral reflectance via a set of parameters is provided. In step 12, a discrete number of trial aerosol visibility values for one or both of trial aerosol property values and aerosol types are provided. In step 14, the radiation transport model is used to calculate the model parameter values for each of the trial aerosol visibility values. In step 16, image pixels having unknown reflectances but having one or more presumed, predefined ratios of reflectances among two or more specific wavelength bands are selected. In step 18, the calculated model parameter values are used to determine the surface reflectance for the selected image pixels for each of the specific wavelength bands for each combination of trial visibility value and trial aerosol property value or values, or aerosol type. In step 20, the determined surface reflectances are compared to the predefined ratio of reflectances. In step 22, a corrected image visibility value for each trial aerosol property value or values or aerosol type is resolved from the comparison of step 20.

#### **Allowable Subject Matter**

4. Claims 1-7, 36 and 37 are allowed.
  
5. The following is an examiner's statement of reasons for allowance:

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In the previous Office Action, Applicant's claims 1-7 were deemed to be allowable if rewritten to overcome objections indicated in the Action. Applicant's amendments to the claims have overcome the objections.

Claim 36 was the only claim rejected in the previous Action. It was rejected under 35 U.S.C. 112, 1<sup>st</sup> paragraph, for failing to comply with the written description requirement. Applicant had included a claim for providing visibility values for aerosol values **and/or** aerosol types. Applicant's original disclosure described only calculating for one or the other, not both together (as such '**and**' was not originally described, only '**or**'). Applicant has amended claim 36 such that the calculation is done for aerosol 'values' and included new claim 37 such that the calculation is done for aerosol 'types'. As such both claims are consistent with Applicant's original disclosure and the rejection has been withdrawn.

All pending claims are now deemed allowable for the reasons provided previously with respect to independent claim 1, repeated below:

The Examiner considers the closest art of record to be the paper to Adler-Golden et al. (1999). Applicant has amended the claims such that the image pixels have predefined ratios but unknown reflectances. As such, the interpretation of the art on which the Examiner has relied is no longer a fair interpretation as the Examiner is persuaded by Applicant arguments that the calibration panels cited by the Examiner to address the selected pixels are taught to be reference pixels which are taught to have known reflectances. Thus the Examiner agrees that the calibration panels do not provide ratios of reflectances (the ratios being taught to be used when the reflectances are unknown) and thus the ratios cannot be used in the claimed comparison or for resolving a corrected image visibility value.

The Examiner therefore maintains that Applicant's claimed invention is deemed allowable over the prior art as the prior art fails to teach or fairly suggest correcting for atmospheric effects on a remote image

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of the Earth's surface taken from above, wherein the image comprises a number of images of the same scene each including a large number of pixels, each at a different wavelength band, and including infrared through visible wavelengths, comprising: selecting image pixels having unknown reflectances but having one or more presumed, predefined ratios of reflectances among two or more specific wavelength bands, using calculated radiation transport model parameters to determine the surface reflectance for the selected image pixels for each of the specific wavelength bands for each combination of trial visibility value and trial aerosol property value or values, or aerosol type; comparing the determined surface reflectances to the predefined ratio of reflectances; and resolving from the comparison a corrected image visibility value for each trial aerosol property value or values or aerosol type.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Gutierrez whose telephone number is (571) 272-2215. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AG

Anthony Gutierrez  
Art Unit 2857  
9/28/07

  
10/12/07  
**ELISEO RAMOS-FELICIANO**  
**SUPERVISORY PATENT EXAMINER**